

Session 32

Liang Hsia

FL. Dept. of Transportation

Certification Program for Signal and Intelligent Transportation Systems (ITS) devices

Topic Description

Discuss the FDOT Traffic Engineering Research Lab's current and planned activities. Current activities include the evaluation and approval of traffic control signal devices. Planned activities, which are already underway, include the evaluation and approval of Intelligent Transportation System (ITS) field devices and Transportation Management Center (TMC) equipment for use in the state. The TERL facility has recently been upgraded to include infrastructure and testing tools that will allow for the efficient and timely evaluation of minimum functional requirements for ITS and TMC devices. Both activities include specifications and standards development along with problem resolution of approved devices.

Speaker Biography

Liang Y. Hsia, P.E., CGC, is a professional engineer administrator with the Florida Department of Transportation. He manages the Traffic Engineering Systems Section that administers quality assurance, certification, Traffic Engineering Research Laboratory research, testing programs and specifications, standards developments. He has a Bachelor of Science degree in architectural engineering and a Master of Science degree in construction with additional graduate studies in computer science, structural engineering, and traffic engineering. He is a member of ITE and ASCE.

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Jeffrey Morgan

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Speaker Biography

A 13 year member of the Traffic Engineering and Operations Office, Jeff currently acts as project manager for activities at the Department's Traffic Engineering Research Lab (TERL). Specific activities include implementing the Department's Approved Product List (APL) Vendor Qualification Program and the development of the Department's upcoming ITS Product Approval Program.

Jeff has been with the Department since 1993 and has spent all of this time either evaluating electronic traffic control products and associated hardware, or developing standards, specifications or testing programs for the same. Jeff received his formal education in Electrical/Electronics Engineering from the University of West Florida and practical experience from the United States Air Force.

Jeff served 10 years on the FDOT Statewide (Signals) Technical Advisory Team. Since 2002 he has served on the National NTCIP Testing and Conformance Assessment Committee, and most recently has become a sub-committee chair of the ITE Intelligent Traffic Signal Operations Committee.

Jeff was raised in Pensacola and now lives in Tallahassee with his wife Lisa and two sons Michael and Thomas.

Certification Program for Traffic Signal and Intelligent Transportation Systems (ITS) Devices

Liang Y. Hsia, P.E.
Deputy State Traffic Engineer

Jeffrey Morgan
Quality Program Manager

Carl Morse
Certification Manager

Traffic Engineering Systems

- Certification - APL
- Quality Engineering
- SunGuideSM Software Change Management and Test
- ITS Devices Change Management and Test
- TERL Research Project
- Specifications Test and Update
- Device, Equipment, System Test
- ITS Communications Lab

FICE/FDOT Design Conference 2006
Designing For More Than Bridges & Roads

Traffic Engineering Systems Team



Traffic Engineering
Research Lab



STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION



SUNGUIDE
Florida's Intelligent Transportation System



PBS &
Research



Southwest
Research
INSTITUTE



PB FARRADYNE
a Parsons Brinckerhoff Company





FLORIDA STATE UNIVERSITY



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FICE/FDOT Design Conference 2006
Designing For More Than Bridges & Roads

Florida Statutes 316.0745




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General Info

State Traffic Engineering and Operations Office

External links will open in a new browser window.

Approved Product List (APL) for Traffic Control Signal Devices

[Click here to view the APL](#)

- [APL Approval Process](#)
- [APL Equipment Specifications \(MSTCSD\)](#)
- [APL Equipment Feedback & Information](#)

Traffic Systems APL Overview

Section 316.0745, Florida Statutes, states that "All official traffic control signals or official traffic control devices purchased and installed in this state by any public body or official shall conform with the manual (MUTCD) and specifications (in our case it is the MSTCSD) published by the Department of Transportation."

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Traffic Engineering Research Lab Functional Testing Areas

- Quality Engineering
- Traffic Signal Device Testing
- ITS Device Testing
- TMC and Communications Testing

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Qualification, Certification, and the FDOT-APL

**Quality Assurance: Vendor and/or
Manufacturer QA Program
Evaluation**

Certification: Device Evaluation and Test

**APL: Device Meets QA and
Certification Requirements**

http://www.dot.state.fl.us/trafficoperations/Traf_Sys/terl/apl.htm

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FDOT-APL Approval Process

- Step 1 Vendor requests device to be listed on the APL
- Step 2 Vendor passes FDOT-APL Quality Assurance Standards Evaluation
- Step 3 Device passes FDOT-APL Device Specifications Evaluation
- Step 4 Device is listed on the FDOT-APL

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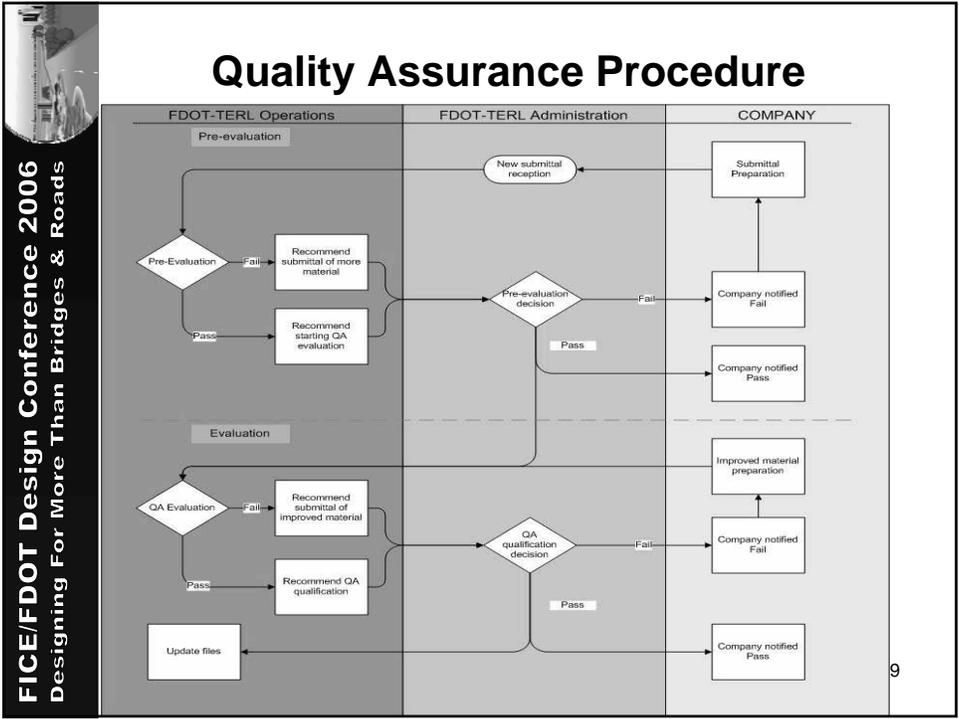
FDOT-APL Approval Process **Quality Assurance Standards Evaluation**

All prospective APL vendors must show evidence of a successful quality control and assurance program (by passing the FDOT Quality Assurance Evaluation Survey) before the evaluation of a device will take place.

QA Survey:

(http://www.dot.state.fl.us/TrafficOperations/apl_vendor_qualification.htm)

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FDOT-APL Approval Process Device Specifications Evaluation

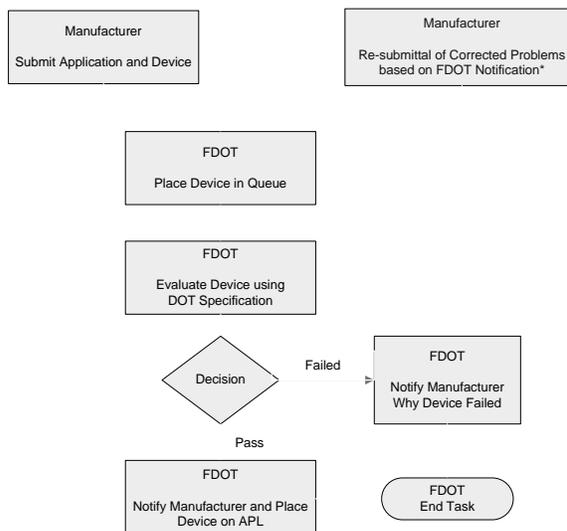
All (qualified) prospective APL vendors must show evidence that the device meets FDOT device specifications (by passing the FDOT Device Evaluation) before a device can be listed on the FDOT-APL.

Equipment Specifications:

(http://www.dot.state.fl.us/TrafficOperations/Traf_Sys/ter/apl4.htm)

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Device Evaluation Procedure



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Device Evaluation Procedure



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FDOT-APL Search

To search an item, first click on the (round) radio button, choose the item from the drop-down list box and then click the "Search" button below.

Cert. Number

Manufacturer

Category

Type of Device

Date of Approval From To

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FDOT-APL Search Results

APL Search Results [\[new search\]](#)

Category: 639 - ELECTRICAL POWER SERVICE ASSEMBLY

Certification #	Manufacturer	Type of Device	Device Description	Approved
63910171154091	HESCO/RLS Pre-evaluation Pending	<u>TRANSIENT PROTECTION DEVICE</u>	MODEL HE500S "PRO-1" (FORMERLY HE120/240 ENFORCER I AND FORMERLY "HULK")	06-01-1993
63910402411013	<u>SOUTHERN MFG CO.</u> www.accordindustries.com/southern/main.html	<u>UNINTERRUPTIBLE POWER SUPPLY (UPS) ASSEMBLY</u>	MODEL SM-UPS-1 with SignalSense SH1200UR TRAFFICUPSTM and Automatic Transfer Switch For Signalized Intersections	01-20-2006
63910402608013	TRANSPORTATION CONTROL SYSTEMS	<u>UNINTERRUPTIBLE POWER SUPPLY (UPS) ASSEMBLY</u>	MEYERS POWERBACK MODEL PB2000-ITS/PIGGYBACK SERIES WITH AUTOMATIC TRANSFER SWITCH	04-19-2006

FDOT-TERL Ongoing Activities

- Ongoing Activities: The evaluation and approval of traffic control signal devices.
- Activities include specifications and standards development along with problem resolution of approved devices.

Traffic Signal Device Testing



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FDOT-TERL New Activities

- New Activities: (ITS APL) - Evaluation and approval of Intelligent Transportation System (ITS) field devices, Transportation Management Center (TMC), and communications equipment for use in the state.
- Activities include specifications and standards development along with problem resolution of approved devices.

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TMC and Communications Testing SunGuide Software



ITS Device Testing



Signal and Sign Support System

After Hurricane Charley, August 13, 2004



FDOT-TERL Facility Improvements

- Upgraded infrastructure and testing equipment and tools allowing for a more efficient and timely evaluation of minimum functional requirements for traffic operations ITS, and communications devices.

ITS Device Object Definitions and NTCIP Testing

- NTCIP 1203 Dynamic Message Signs v1.0 Amendment 1
- NTCIP 1204 Environmental System Sensors (RWIS) v02.18
- NTCIP 1205 Closed-Circuit Television Control v01.08 Amendment 1
- NTCIP 1206 Data Collection Management
- NTCIP 1207 Ramp Meter Control
- NTCIP 1208 Video Switches v01.11
- NTCIP 1209 Transportation System Sensor

NTCIP 1203 Dynamic Message Signs



NTCIP 1204

Environmental System Sensors

(RWIS on FDOT Tallahassee Microwave Tower)



NTCIP 1205

Closed-Circuit Television Control



NTCIP 1206 Data Collection Management



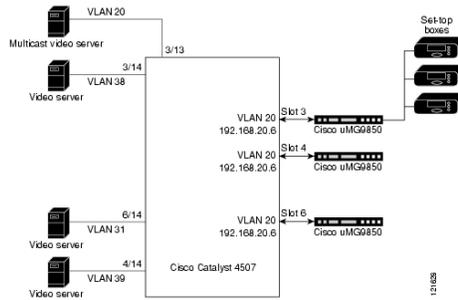
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NTCIP 1207 Ramp Meter Control



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NTCIP 1208 Video Switches



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NTCIP 1209 Transportation Sensor Systems (TSS)

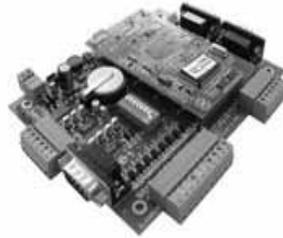


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NTCIP Translator

Use of NTCIP translator devices for non-NTCIP devices

- Saves SunGuide development costs for device driver
- Facilitates integration of legacy devices



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Questions?

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